G-92
C-18 CULVERT
MARTENS CULVERT

This structure is a single-barreled, concrete box culvert, located through the north bank of the C-18 Canal about two miles southwest of the turnpike crossing of C-18. Control is effected by a manually or remotely operated sluice gate mounted on a reinforced concrete headwall on the canal side. This new structure was completed in June 1987.

PURPOSE

This structure permits flow augmentation of the west branch of the Loxahatchee River (C-14), and diverts water between C-18 and C-14.

OPERATION

This structure is operated to supplement flows in the west branch of the Loxahatchee River during dry periods, to divert flows from the southwest fork as long as capacity is available in C-14, or to divert extremely high flood flows from C-14 into C-18 in accordance with a proposed agreement between the South Florida Water Management District and the Loxahatchee River Environmental Control District. This agreement has two operational provisions as follows:

(1) Flow Augmentation in C-14

Releases may be made through the structure so as to maintain a flow of 50 cfs at the Lainhart Dam (about 100 yards) below the SR 706 bridge over the west branch of the Loxahatchee River, as long as the headwater stage at G-92 is 12.5 feet or greater. As the headwater stage nears 12.5 feet, the discharge will be reduced so as to prolong the period of discharge. The gate will be closed for all headwater stages of 12.0 feet or less.

(2) Flood Control Releases

Whenever S-46 is close to its automatic opening stage, G-92 will be opened so as to release up to 400 cfs as long as the tailwater does not exceed 14.5 feet. If the tailwater stage rises above 14.5 feet, with the gate closed it will remain closed until the tailwater exceeds the headwater stage by 0.5 feet, whereupon the gate will be opened full and remain open until

either the tailwater stage recedes to 14.5 feet or the headwater stage rises above the tailwater stage, whichever occurs first.

FLOOD DISCHARGE CHARACTERISTICS

There is no design flood discharge for this structure.

DESCRIPTION

Type:	Reinforced concrete box culvert with upstream control
Number of Barrels:	1
Net Length:	50.0 feet
Flowline Elevation:	5.5 feet
Service Bridge Elevation:	22.0 feet
Water level which will by-pass structure:	20.0 feet
Gates:	
Number:	1
Size:	8 feet high by 10 feet wide
Type:	Pedestal mounted, motor operated hoist
Control:	On-site, manual headwater control and remote computer control
Lifting Mechanism:	
Normal Power Source:	Commercial electricity
Emergency Power Source:	LP gas engine driven generator
Type Hoist	Direct drive electric motor, gear connected to gear box and gate stems.

ACCESS: From turnpike via 2 mile access road on left (NW) bank of C-18 or from SR 710 (Beeline Highway) via 6½ mile access road on left (NW) bank of C-18.

HYDROLOGIC AND HYDRAULIC MEASUREMENTS

Water Level:	On-site, analog and remote digital headwater and tailwater recorders
Gate Position Recorder:	On-site analog recorder and remote digital recorder
Rain Gauge:	None

DEWATERING FACILITIES

Upstream and downstream stop logs